

ORDER

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**AUTOMATED FLIGHT SERVICE STATION UNINTERRUPTIBLE
POWER SUPPLY (AFSS UPS) PROJECT
IMPLEMENTATION PLAN**



SEPTEMBER 23, 1993

**DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION**

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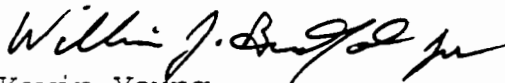
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FOREWORD

This order transmits the project implementation plan which provides management direction for the implementation and acceptance of an uninterruptible power supply (UPS) at Automated Flight Service Stations (AFSS) into the National Airspace System (NAS). It defines the major functional responsibility levels, management direction, and overall program guidance to all responsible levels within the Federal Aviation Administration (FAA) for the procurement and implementation of the AFSS UPS.

This order has been prepared in accordance with Order 1320.1, FAA Directives System, and FAA-STD-036, Preparation of Project Implementation Plans. It provides the appropriate level of technical guidance and direction to all levels of the FAA that are responsible for the AFSS UPS Program being implemented and integrated into the NAS.



Kevin Young
Program Manager for
Flight Service Stations
and Weather Processors

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CHAPTER 1. GENERAL

1. PURPOSE. This order transmits the Project Implementation Plan (PIP) which provides the overall guidance and direction for the orderly implementation of the Automated Flight Service Station Uninterruptible Power Supply (AFSS UPS) project. By letter of agreement between the Program Manager for Flight Service Stations and Weather Processors, ANW-200, and the Facility Programs and Transition Division, ANS-200, the project management for the implementation of the AFSS UPS will be the responsibility of ANS-200. ANS-200 has designated ANS-230 as the project manager. This PIP establishes program management, project implementation procedures, and defines responsibilities governing the activities of specified organizations. It also identifies and defines the specific events and activities to be accomplished in order to successfully implement the AFSS UPS project. Each region will use the data contained within the PIP to develop a regional AFSS UPS Implementation Plan, which specifically, and at a much lower level of detail, addresses the actions required for that region.

2. DISTRIBUTION. This order is being distributed to branch level in the office of the Program Director for Weather and Flight Service Systems, NAS Transition and Implementation; NAS System Engineering; Facility System Engineering Service; and the Systems Maintenance Services; branch level to regional Airway Facilities and Air Traffic divisions; branch level to the Engineering, Test, and Evaluation Service at the FAA Technical Center and the FAA Academy and the FAA Logistics Center at the Aeronautical Center; and a limited distribution to Airway Facilities general NAS sectors.

3. DEFINITIONS. The terms, abbreviations, and acronyms used throughout this order are defined in appendix 1 unless otherwise specified or defined in reference documentation.

4. AUTHORITY TO CHANGE THIS ORDER. This order may be changed only by the Program Manager for Flight Service Stations, ANW-200. Requests for changes to this order should be directed to ANW-200, FAA Headquarters, 800 Independence Ave., SW, Washington, DC, 20591.

5.-19. RESERVED.

CHAPTER 2. PROJECT OVERVIEW

20. SYNOPSIS.

a. Acquisition Concept. The AFSS UPS project provides for installation of an UPS at all AFSS's to mitigate service outages and equipment damage resulting from power outages, surges, and instabilities. The program office will procure nondevelopment item/commercial-off-the-shelf (NDI/COTS) single module UPS system and associated equipment for installation by the region.

b. Contract Award. The UPS will be acquired using an interagency agreement (IA) with U.S. Navy. A copy of the IA is in appendix 3.

21. PURPOSE. The AFSS UPS is to provide critical equipment with a source of clean, regulated, and reliable power. The UPS has a battery back-up which provides continuous power during momentary outages and provides enough time to get the standby engine-generator (E/G) operating at its specified performance level. The UPS will also support a planned power shutdown in case the standby E/G fails during a long commercial utility outage.

22. HISTORY. The level and complexity of electronic equipment in AFSS's has continued to increase since FY-1985. Outages and fluctuations of commercial electrical power causes the failure of unprotected electronic equipment at these new facilities. Additionally, the unprotected equipment may suffer damage due to power fluctuations. It has been shown that power fluctuations can cause premature failure of micro-chips and other solid state components. Often the components do not fail immediately, but when subjected to several power fluctuations, the result is an eventual breakdown of the part. Numerous AFSS facilities are experiencing outages and damages especially during thunderstorm activity. Although the engine generator is activated within 15 seconds, it offers no protection from short power fluctuations which can damage critical computer, telephone, and radio equipment. Microprocessor controlled equipment often recognizes power hits as power outages. Automatic power-up resets will occur followed by data base restoral. This initializing process can take many minutes to complete thereby eliminating the flight service specialists working tools. The UPS will negate this condition. A configuration control decision to amend FAA-E-2683c, Specification for the Flight Service Automation System, and UPS Order 6950.2C, Electrical Power Implementation at National Airspace System Facilities, to specify the requirement for an UPS at AFSS's was published on August 22, 1991.

23. AUTHORIZATION. The UPS will be acquired using an IA with U.S. Navy. The AFSS UPS equipment is not a major system acquisition as defined by Order 1810.1, Acquisition Policy, nor is it covered by a systems requirements statement. The authorization rationale for the AFSS UPS equipment is supported by a configuration control decision to amend the FAA Specification FAA-E-2683c and Order 6950.2C also Capital Investment Plan (CIP) 43-03.

24. BENEFITS. The installation of UPS at AFSS's will minimize interruptions in service due to short term loss of, or fluctuations in commercial power sources.

25. PROJECT IMPACT. Installation of panels on walls should not require any approval from lessor. Changes to walls will require coordination with the lessor.

26.-29. RESERVED.

CHAPTER 3. PROJECT DESCRIPTION

30. FUNCTIONAL DESCRIPTION. The project will provide an UPS system that will serve designated critical subsystem and equipment located in AFSS. The list of authorized critical equipment is in appendix 2. The UPS system will consist of devices beginning at the point the power enters the AFSS facility and extending to the point the critical equipment receives its power as shown in figure 3-1. Figure 3-1 is a hypothetical representation of a typical re-configuration of an existing AFSS power distribution system that will accept a new single module UPS. Figure 3-1 also indicates the application of other associated new and/or replacement electrical protective devices and distribution equipment. The following paragraphs are all related to figure 3-1.

a. UPS. The UPS will be government furnished material (GFM). The UPS is suitable for installation in computer room environment. The UPS technical data is as follows:

Rating: 62.5 kVA @ 40°C
Input: Two 208-volt, three-phase, three-wire.
Output: One 208-volt, three-phase, four-wire,
grounded neutral.
Battery: Sealed, maintenance-free, high-rate
discharge, lead acid, minimum 15-minute
operation at full rated load.

Sizing of the UPS was based on the estimated maximum load demands of the authorized critical equipment and subsystem listed in appendix 2. It is recognized that maximum critical load demands will vary by sites depending on actual equipment and subsystem installed and number of controller positions. Refer to sub paragraph 32j regarding the impact of the UPS installation to the existing standby engine generator.

b. Maintenance Bypass Switch (MBS). The MBS will be GFM. The MBS will be an enclosed 400 ampere, two-position, three-phase three-wire, non load break, closed transition manual transfer switch similar to ASCO 933.

c. Power Distribution Unit (PDU). The PDU will be GFM. The PDU will consist of an isolation/harmonic cancellation transformer and three output feeder circuit breakers. The PDU will be suitable for installation in computer room environment. The PDU will provide common mode isolation, cancellation of

harmonics injected by non-linear loads, and power factor correction as seen by the UPS and the rest of the power system upstream. The PDU will be rated:

75-kVA, 208-volt delta primary, 208/120-volt, three-phase, four-wire, grounded wye secondary with three output feeder circuit breakers.

d. Load Bank. The load bank will be GFM. The load bank will be provided for use in annual testing/calibration of the UPS as recommended by the UPS manufacturer. The same load bank will be used with the engine-generator.

31. PHYSICAL DESCRIPTION.

a. UPS. The single module UPS consist of two input isolation transformers, rectifier/charger, static inverter, battery, static bypass switch, output transformer, and all necessary input and output protection and disconnect devices. The UPS is designed with modular subassemblies which can be replaced from the front of the unit. The UPS is housed in a free-standing dead front enclosure. The enclosure is designed for installation in computer room environment. The UPS module including batteries has approximate dimensions of 11' 0"W X 2'-7.5"D X 6'-2"H. Provide a minimum of 3' 0" clear space in front for maintenance access. The project will include the installation of circuit breakers in the essential switchgear to feed the UPS and the rerouting of subpanel mains to the new critical panel. It weighs approximately 8,900 pounds. It will operate in environments from 0°C up to 40°C with a maximum relative humidity of 95 percent. It will be located in the TELCO equipment room as indicated on figure 3-2. This location may vary, as determined by the regions on a case-to-case basis because standardization was not maintained from the beginning.

b. MBS. The maintenance bypass switch is a wall mounted device with approximate dimensions of 23"W x 35"H x 13"D.

c. PDU. The PDU unit is a floor mounted device with approximate dimensions of 31.5"W X 41"D X 66.5"H. The PDU weighs approximately 1,500 pounds. Verify rating of existing raised floor to ensure that it is not exceeded.

Chap 3
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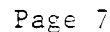
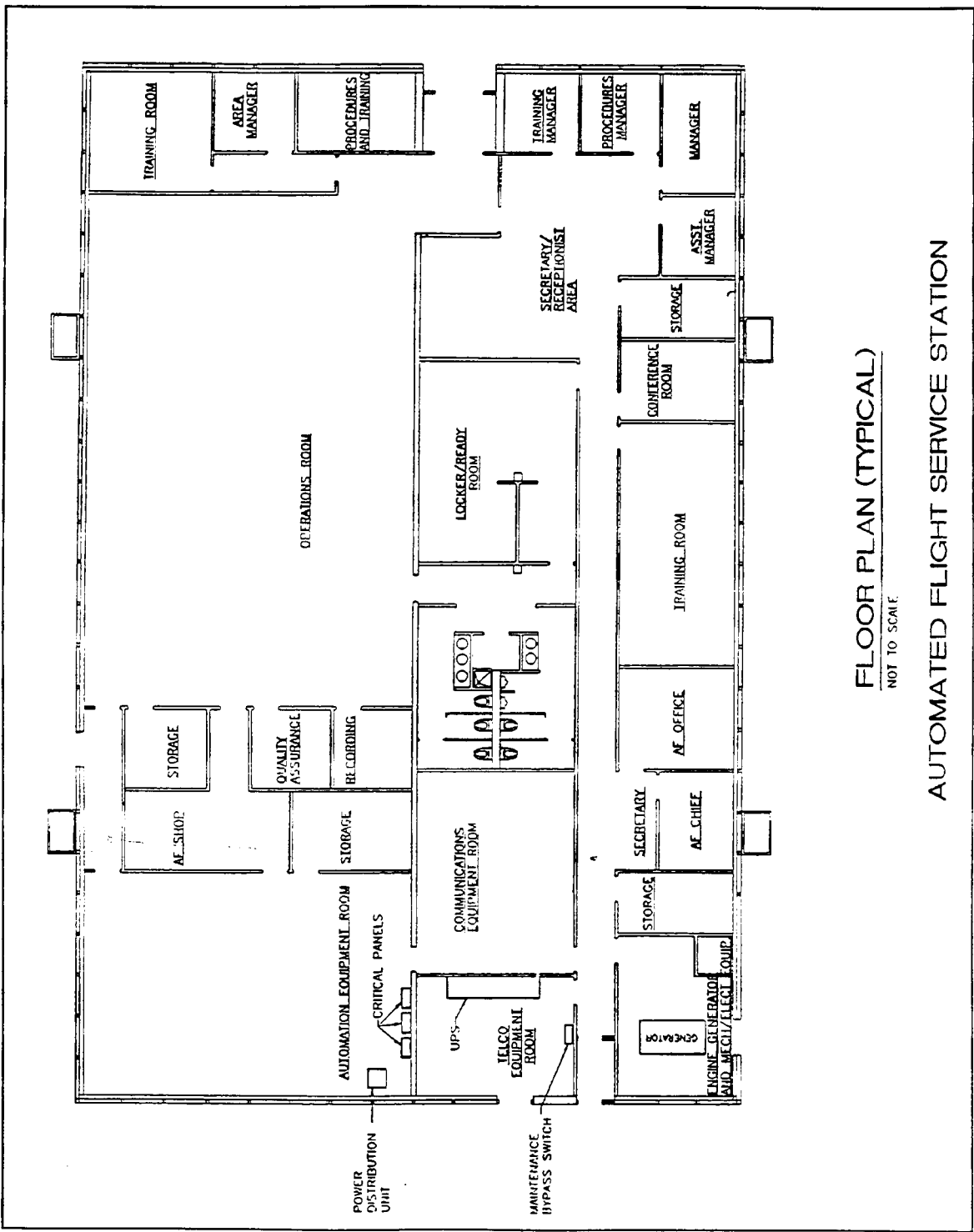


FIGURE 3-2. FLOOR PLAN (TYPICAL)



32. SYSTEM REQUIREMENTS. The project includes design of the UPS installation; procurement of the UPS module, maintenance bypass switch, PDU and other associated equipment; site preparation; UPS installation and acceptance; installation of all required new and replacement protective devices, feeders, branch circuits, and re-connections to all authorized equipment and subsystems. To ensure that all equipment is compatible and the system works as it should, an analysis of the re-configured electrical distribution system shall be performed. The intent is to secure the services of a licensed professional engineer to do the analysis and design and preparation of each site installation drawings and specification. A complete design package for the Nashville, TN, AFSS (designated test site) which contains design drawings, model specifications and a model data summary handbook is being provided to the regions under separate cover. The Nashville, TN, AFSS design will be site adapted to follow-on sites. The following paragraphs is a summary of system requirements:

a. UPS. Based on the Nashville, TN, AFSS findings, the configuration of UPS indicated in figure 3-1 was modified to achieve protective device coordination. The change required two separate input feeders. The UPS output shall be configured as a separately derived source in accordance with the National Electrical Code (NEC). The output neutral shall be grounded; however, the output feeder from the UPS shall be three-phase, three-wire. The neutral need not be brought out.

b. MBS. Operation of the MBS shall be in accordance with the established procedures noted in the Nashville, TN, AFSS design.

c. PDU. The PDU shall be configured as a separately derived source in accordance with the NEC. The PDU shall be located as close as possible to the equipment loads as recommended by FIPS PUB 94, Guideline on Electrical Power for ADP Installations. This requirement is similarly recommended in the new "Emerald Book", IEEE Recommended Practice for Power and Grounding Sensitive Electronic Equipment.

d. Load Bank. A new load bank and controller will be installed to replace the existing.

e. Critical Feeders. Feeders from the PDU to critical panelboards shall be installed in dedicated raceways/conduits (not shared) in accordance with specification FAA-E-1217e, Interior Electrical.

f. Signal Reference Grid (SRG). The application of SRG's where sensitive electronic equipment and subsystems are located, (i.e., Automation Equipment Room, Equipment Room and Operations Area) is highly recommended in accordance with FIPS PUB 94. This is also discussed in Order 6950.19A, Practice and Procedures for Lightning Protection, Grounding, Bonding, and Shielding Implementation. However, due to budget limitations, implementation of this work will be deferred and accomplished under a separate CIP project in the future.

g. Branch Circuits. While the existing branch circuit installation meet the NEC (based on Nashville, TN, AFSS survey), they should be upgraded to use dedicated raceways to increase system reliability. This work will also be deferred and included in future upgrades along with the installation of the SRG's. However, the existing branch circuit connections shall be re-arranged to achieve necessary load balance as described herein.

h. Load Balance. Single-phase loads in each panelboards shall be balanced among the three phases so that the total load on any phase does not deviate from the average of the three phases by more than 10 percent under normal operating conditions. Also, the total loads on each critical panelboard shall be balanced among the three panelboards so that the total load on any panelboard does not deviate from the average of the three panelboards by more than 10 percent under normal operating conditions.

i. Power System Study. Perform a complete power system study in accordance FAA-STD-032, Design Standards for FAA Facilities. The study will include a complete short circuit analysis, protective device coordination study, load flow, voltage drop analysis, and sizing of stand-by diesel engine generator and utility service. Due to associated liability, the intent is for the regions to have the study accomplished by a licensed professional engineer as part of his/her engineering design services. A sample study is presented for the designated test site, Nashville, TN, AFSS. This is included in its Design Data Handbook as part of the UPS installation design package. A copy of the Nashville, TN, AFSS design package will be provided along with this Order for use by the regions as a "model" in the preparation of the installation design for follow-on sites.

j. Engine-Generator (E/G). Previous Power System Analysis recommended a replacement of the existing E/G to a larger size due to the installation of a new UPS. This was based on loading the UPS to its rated capacity. Due to budget limitation, the existing E/G and associated essential switchboard will be

temporarily retained, where possible. Each AFSS sites shall be analyzed based on actual authorized existing loads, similar to the Nashville, TN, AFSS. Temporarily retained E/G's will be replaced in the future under a separate CIP project.

k. All NEC wiring violations within the confines of the ENGINE-GENERATOR & MECH/ELECT EQUIP room shall be corrected under this project.

33. INTERFACES.

- a. Input to the UPS: Two three-phase, three-wire, 208-volts, 60 Hz from Essential bus.
- b. Output from UPS: Three-phase, three-wire, 208-volts, 60 Hz via feeder circuit breaker and MBS to PDU.
- c. MBS input and output: Three-phase, three-wire, 208 volts, 60 Hz.
- d. Output from PDU: Three three-phase, four-wire, 208/120-volts, 60 Hz, grounded, to three critical panelboards.
- e. Critical Panelboards: 208/120-volts, three-phase, four-wire.
- f. Branch Circuits: Single phase, 120-volts or 208-volts; or three-phase, four-wire, 208-volts; as required by the designated critical loads as listed in appendix 2. See subparagraphs 32f and 32g on load balance requirements.

34.-39. RESERVED.

CHAPTER 4. PROJECT SCHEDULE AND STATUS

40. PROJECT SCHEDULES AND GENERAL STATUS. The following is the list of AFSS's to receive UPS's in priority order:

<u>LOCATION</u>	<u>DELIVERY DATE</u>	<u>LOCATION</u>	<u>DELIVERY DATE</u>
MIAMI, FL	09/93	GREAT FALLS, MT	08/94
HONOLULU, HI	09/93	MC ALESTER, OK	08/94
NASHVILLE, TN	10/93	RANCHO MURIETA, CA	09/94
DENVER, CO	11/93	ST PETERSBURG, FL	09/94
MACON, GA	12/93	CLEVELAND, OH	09/94
FAIRBANKS, AK	01/94	GAINESVILLE, FL	10/94
SEATTLE, WA	01/94	JONESBORO, AR	10/94
ANDERSON, SC	02/94	RIVERSIDE, CA	10/94
CONROE, TX	02/94	ALTOONA, PA	11/94
OAKLAND, CA	02/94	BURLINGTON, VT	11/94
KENAI, AK	03/94	RALEIGH, NC	11/94
MC MINNVILLE, OR	03/94	DAYTON, OH	12/94
ANNISTON, AL	04/94	GREENWOOD, MS	12/94
FT. WORTH, TX	04/94	SAN ANGELO, TX	12/94
PRESCOTT, AZ	04/94	SAN DIEGO, CA	01/95
JUNEAU, AK	05/94	WICHITA, KS	01/95
BRIDGEPORT, CT	05/94	LANSING, MI	01/95
CEDAR CITY, UT	05/94	LOUISVILLE, KY	02/95
TERRE HAUTE, IN	06/94	ALBUQUERQUE, NM	02/95
BOISE, ID	06/94	HAWTHORNE, CA	02/95
DERIDDER, LA	06/94	WILLIAMSPORT, PA	03/95
RENO, NV	07/94	GREEN BAY, WI	04/95
CASPER, WY	07/94	JACKSON, TN	04/95
LEESBURG, VA	07/94	BANGOR, ME	05/95
KANKAKEE, IL	08/94	PRINCETON, MN	06/95

<u>LOCATION</u>	<u>DELIVERY DATE</u>	<u>LOCATION</u>	<u>DELIVERY DATE</u>
ELKINS, WV	07/95	FT. DODGE, IA	12/95
ST. LOUIS, MO	08/95	COLUMBIA, MO	02/96
GRAND FORKS, ND	08/95	ISLIP, NY	03/96
COLUMBUS, NE	10/95	MILVILLE, NJ	07/96
HURON, SD	10/95	SAN JUAN,, PR	08/96
BUFFALO, NY	11/95		

41. MILESTONE SCHEDULE SUMMARY.

	<u>Due Date</u>
• Start DRR	03-01-92
• Develop technical requirements	03-30-92
• Release of PR to the office of Acquisition Support (ASU)	04-10-92
• Contract Award IA with Navy	02-23-93
• Release project authorizations to the regions for engineering design & installation (first site)	03-15-93
• First site delivery	09-10-93
• Last site delivery	08-96

42. INTERDEPENDENCIES AND SEQUENCE. A NAS Change Proposal (NCP) has to be generated by AOS-200 to remove the Integrated Communications Switching System (ICSS) UPS on present systems in order to cover all operational equipment. (Physical removal to be accomplished by the regional contractor).

43.-49. RESERVED.

CHAPTER 5. PROJECT MANAGEMENT

50. PROJECT MANAGEMENT, GENERAL. The AFSS UPS project is under the auspices of ANS-230, GNAS Facility Program Office. The PM and designated staff members are responsible for procurement and implementation of the AFSS UPS from issuance of delivery orders to the U.S. Navy through installation, checkout, and integration into the NAS. Matrix management will be used by the ANS-230 PM, who is the single focal point for all project activities, to monitor specific areas such as contractor performance and project implementation. The PM will utilize personnel from various FAA organizations to support program requirements within the guidelines provided by FAA policies, procedures, and directives. While there will be distinct lines of authority with regard to achieving project goals, informal communication and support among project responsible personnel will play a vital part in achieving the successful implementation of the AFSS UPS.

a. Key Individuals.

ANW-200	Kevin Young	Program Manager for Flight Service Stations
ANW-500	Charles Andrasco	Project Coordinator
ANS-230	Wilmer Hunter	Project Manager
ANS-230	Felipe Solis	Technical Officer
AAL-421	Jerry Jensen	RAPM
ACE-424	Tom Mardis	RAPM
AEA-421	Nayla Fowad	RAPM
AGL-421	Joe Szanati	RAPM
ANE-421	Ed Davis	RAPM
ANM-422	Bob Rollins	RAPM
ASO-422	Rich Williams	RAPM
ASW-422	Randy Morton	RAPM
AWP-422	John Shea	RAPM
ACW-300C	John Garry	APMT
AOS-200	Loren Carvajal	APM/
ANS-420	Chuck Parry	APML

(1) Project Manager. The Facilities Integration and Division Manager (ANS-200) has designated ANS-230, GNAS Facilities Program Office Manager, to serve as the PM for the AFSS UPS project.

(2) Technical Officer (TO). ANS-230 is the TO.

(3) Regional Associate Project Manager (RAPM). The RAPM is designated by the regional Airway Facilities (AF) division as being accountable for ensuring that activities required in support of the installation of the AFSS UPS are accomplished in an orderly manner. The RAPM is responsible for communication, coordination, and reaction to the responsibilities of the TO. The RAPM will submit periodic technical reports to the TO describing progress at each site within the region.

(4) Airway Facilities Site Representative (AFSR). The AFSR is assigned by the regional AF division manager with primary responsibilities to work closely with the RAPM, the contractor and AF sector personnel during the installation, testing, and acceptance phases at each AFSS UPS.

b. AFSS UPS Project Responsibilities.

(1) Headquarters Responsibilities.

(a) ANW-500.

1. Provide funding for project.
2. Provide installation priority.
3. Assist PM when required.

(b) ANS-230.

1. Provide project guidance to all offices, services, the Aeronautical Center, the FAA Technical Center, and the regions.

2. Ensure the timely implementation of the AFSS UPS into the operational environment in a way that minimizes costs and optimizes system performance.

3. Identify offices or services necessary to support the installation and test efforts of the AFSS UPS.

4. Prepare, analyze, and distribute scheduling information to the regions, FAA Technical Center, FAA Academy, and the FAA Logistics Center.

5. Ensure the baseline configuration for the AFSS UPS and provide suitable documentation to appropriate offices upon transition to operational status.

6. Provide planning and guidance information

to all activities which interface with the AFSS UPS equipment for the timely implementation of support activity.

7. Provide site preparation requirements to the regions and the Aeronautical Center for monitoring the accomplishment of site activities leading toward the completion and acceptance of the site installations.

8. Be responsible for factory and field acceptance testing.

9. Provide technical surveillance of the contractor in the design, development, production, testing, installation, integration, and documentation of hardware for the AFSS UPS.

10. Assist with the development of maintenance concept which entails providing for maintenance of the AFSS UPS by the appropriate in-house services.

11. Coordinate with the regions(s) for scheduling and monitoring the installation.

12. Ensure the availability of all hardware interfaces required for AFSS UPS implementation.

13. Assist with development of the AFSS UPS shakedown test plan and procedures.

14. Ensure the availability of funds and keep the contract within budget limitations.

15. Determine distribution of AFSS UPS documentation.

16. Ensure logistic support requirements in coordination with the Aeronautical Center, are planned, funded, and delivered in time to permit effective operational use of the AFSS UPS.

17. Provide input and assistance to the Office of Training and Higher Education (AHT) for training of maintenance personnel.

18. Ensure the development of performance, maintenance, and calibration standards and procedures for the AFSS UPS.

19. Assist in and ensure the development of

system operational changeover plans with the Associate Administrator for Air Traffic (AAT) and the regions.

20. Provide configuration management support via the Configuration Control Board (CCB) and AFSS UPS Program Planning Groups.

21. Resolve all issues emanating from installation, checkout, and integration into the NAS of the AFSS UPS.

22. The TO will schedule meetings for all TOR's to provide briefings on the TOR's responsibilities and authority.

(c) Systems Maintenance Service (ASM).

1. Provide maintenance requirements document (MRD) .

2. Provide maintenance concept.

(d) Office of the Associate Administrator for Air Traffic (AAT).

1. Identify and document any additional operational requirements for the AFSS UPS.

2. Ensure that all operational aspects of system implementation are satisfactorily resolved by the regions prior to operational changeover.

3. Assist in the development of AFSS UPS shakedown and changeover plans with ANS-230 and regions.

4. Provide technical coordination and support to ANS-230 on items associated with air traffic control (ATC) functions, and hardware configurations.

5. Support ANS-230 in the area of ATC operational computer programs and generation of site documentation.

(e) Office of Acquisition Support (ASU)
(ASU-300/400) .

1. Provide procurement actions necessary to award and administer the IA with the U.S. Navy for the acquisition of the AFSS UPS and related items to include, but not

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limited to, maintenance bypass switch, power distribution unit, load bank, spares and calibration equipment.

2. Provide IA administration. The headquarters contract officer has been designated as ASU-320.

3. Provide surveillance of program management and contract administration.

4. Provide policy and procedural guidance to regional AF divisions and the Mike Monroney Aeronautical Center, for appropriate AFSS UPS property controls and record maintenance prior to operational use.

5. Provide procedural guidance for the disposal or utilization of surplus material.

6. Provide support to the AFSS UPS CCB and planning group.

(f) Office of Training and Higher Education (AHT). Act as an alternate contracting officer's technical representative for training items only (AHT-330, FAA headquarters).

(g) Configuration Management and Engineering Support Division (ASE-600). Set the policies for how to control the changes in the configuration of the AFSS UPS and monitor the AFSS UPS configuration. Changes will be evaluated and controlled by the CCB.

(h) National Airspace System Integrated Logistics Support (NAILS) Program Division (ANS-400). Responsible for assuring the timely integration of NAILS requirements into all aspects of project development and acquisition.

(i) Facility System Engineering (AFE). AFE may validate the list of equipment and calculations on how the UPS size requirement was arrived at.

(2) System Engineering and Integration (SEI) Contractor Responsibilities.

(a) Provide direct support to the Facility Power Systems Branch (ANS-230) at headquarters to include, but not limited to the following areas:

1. AFSS UPS Deployment Readiness Review (DRR) checklist development and coordination.

(3) Region Responsibilities. The region will be responsible for installation and all associated site preparation, power system analysis and design for each site as described in paragraph 32, Systems Requirements. The regions will assist the TO with AFSS UPS project coordination, monitoring, and approving installation and checkout efforts for the AFSS UPS field implementation. Regional AF division managers are the responsible individuals for the AFSS UPS field implementation. To assist in this effort, each AF division manager will designate a RAPM, and be responsible for the assignment of a site representative (AFSR).

(4) UPS Contractor Responsibilities. The UPS contractor is responsible for a COTS. The responsibility will include testing, production, and delivery of the system, also providing spares, unique test equipment (if necessary), training, and all documentation.

(5) Mike Monroney Aeronautical Center (AMC). AMC will provide maintenance material, maintenance training support, and inputs to the maintenance concept in coordination with the FAA Academy, FAA Logistics Center, and ANS-230. Responsible organizations for the necessary tasks will be determined later.

(6) FAA Technical Center. The NAV/Spectrum/Power Systems Division (ACW-300) will provide the AFSS UPS Project Manager with the following support:

- (a) Provide support to the AFSS UPS group.
- (b) Provide technical support in AFSS UPS contract monitoring.
- (c) Monitor the installation and checkout of the first AFSS UPS system.
- (d) Support NAS integration testing on the first AFSS UPS system and provide support to the program manager for all phases of test & evaluation (T&E).
- (e) Support the development of test plans, test policy, standards, and test requirements.
- (f) Support the accomplishment of a valid test program by reviewing conformity of test programs in accordance with Order 1810.4, FAA NAS Test and Evaluation Policy, and standards, by reviewing test plans, test procedures, monitoring tests, and reviewing test analysis and reports.

(g) Support the project manager in the preparation of test plans, procedures, and reports.

(h) Support all testing activities up to first-site commissioning and additional sites as required.

(i) Provide a recommendation based on test results in support of the EXCOM DRR process to determine whether the AFSS UPS system should or should not be deployed.

(j) Jointly prepare AFSS UPS master test plan.

(7) Operational Support Service (AOS). The National Airway Systems Engineering Division (AOS-200) will provide the following support:

(a) Provide field support to the AFSS UPS project manager in the system shakedown requirements for field implementation of the AFSS UPS.

(b) Act as contracting officer's technical representative for the technical instruction books and participate in all process reviews of the technical instruction book developed by the contractor.

(c) Monitor the installation and checkout of the first AFSS UPS system.

(d) Develop the shakedown test plan and procedures.

(e) Conduct shakedown testing on the first AFSS UPS system.

(f) Develop the maintenance handbook prior to first system commissioning.

(g) Provide a recommendation based on shakedown test results in support of the Executive Committee Deployment Readiness Review (EXCOM DRR) process to determine whether the AFSS UPS system should or should not be deployed.

(h) Provide engineering support for modifications and documentation (technical instruction books) to commissioned facilities.

(i) Develop NCP and Electronic Equipment Requirement (EER) for removal of ICSS UPS.

51. PROJECT CONTACTS. The primary points of contact for the AFSS UPS project are shown in subparagraph 50a, AFSS UPS key individual list.

52. PROJECT COORDINATION. Subparagraphs 52a - 52c provide a brief overview of project support groups and their responsibilities to assist the TO in fulfilling assigned activities.

a. Regional Associate Project Manager (RAPM). The RAPM's serve as focal points in the respective regions for the AFSS UPS implementation activities. As the project manager's regional representative, they work closely with the project manager and the headquarters TO. They are designated by the regional AF division manager and are accountable for ensuring that the AFSS UPS is implemented in an orderly manner. RAPM's tasks include, but are not limited to, the following:

(1) Coordinate/manage regional deployment and all site prep activities.

(2) Provide guidance and direction to the FAA site personnel.

(3) Provide inputs and periodic technical reports describing the deployment progress at each site to the TO.

(4) Coordinate with Air Traffic as required, for test activities associated with the operational ATC systems.

(5) Ensure that the Joint Acceptance Inspection (JAI) and integration of the AFSS UPS into the NAS and ensure the AF sector manager or appropriate representative are present.

(6) Review and recommend approval of installation contractor's Site Preparation Report (SPR). The SPR shall include a complete UPS installation design package as described in paragraph 32, System Requirements.

(7) Arrange for the installation contractor site access.

(8) Complete FAA Form 256 for AFSS UPS acceptance and submit the completed form to the TO.

(9) Submit installation logs and installation status reports, based on log entries, to the TO.

b. Site Representative. The FAA site representatives (AFSR's) will be assigned by the AF division manager. This position will be the interface between the contractor, RAPM, and sector personnel. Tasks include, but are not limited to, the following:

(1) Assist with the site surveys, ensuring that site-particular conditions are adequately addressed and coordinated with local/sector personnel.

(2) Provide inputs to the RAPM and logistics planning activities as they relate to site requirements.

(3) Record site performance data prior to beginning the installation.

(4) Provide assistance to the RAPM in direction and guidance to the installation personnel to efficiently and timely accomplish site preparation, installation, testing, and evaluation for the AFSS UPS.

(5) Witness the site preparation and installation.

(6) Participate in testing and integration into NAS.

(7) Witness the completion of FAA Form 256 for AFSS UPS acceptance.

(8) Assist in system field testing in accordance with the requirements of the test plans for the AFSS UPS and witness the JAI.

(9) Participate in the JAI.

c. Configuration Control Board. In accordance with Order 1800.8F, NAS Configuration Management, the CCB is the official agency-authorized forum to approve or disapprove baselines and changes to the baselines. There is a central NAS CCB to establish and control baselines and to administer configuration control. From this CCB, authority is delegated to lower-level CCB's to effectively administer proposed changes at the most appropriate level. All lower-level CCB's will be accountable to the NAS CCB which has been established through a charter defining its authority, responsibilities (including the specific documents over which the CCB has control), and membership. Decisions and directions are documented in configuration control decisions, which either approves, disapproves, defers, or refers the change request to another CCB.

When contractual action is required, the configuration control decisions serves as a basis for the preparation of a procurement request which is submitted to the contracting officer. The configuration control decisions may also be distributed to other Government agencies and serves as an official notification of CCB action. Representatives on the CCB are to include the various agency services/offices that have responsibilities to acquire, support, and operate the system. Other representatives may be invited to attend as required.

(1) AFSS UPS CCB Membership:

- (a) Program Director for Weather and Flight Service Systems (ANW).
- (b) FAA Technical Center (ACN).
- (c) Configuration Management and Engineering Support Division (ASE-600).
- (d) Office of the Associate Administrator for Contracting and Quality Assurance (ASU).
- (e) Operational Support Service (AOS).
- (f) Facility System Engineering Service (AFE).

53. PROJECT RESPONSIBILITY MATRIX. The AFSS UPS Project Responsibility Matrix is shown in table 5-1.

TABLE 5-1, AFSS UPS
RESPONSIBILITY MATRIX

<u>Task/Plan/Activity</u>	<u>Primary Office</u>	<u>Supporting Office</u>
Site prep, design and Installation of AFSS-UPS	Regions	ANS-230
Acceptance Tests/ Joint	ANS-230	ANW-500
Acceptance Inspection (JAI)	RAPM Site Representative	ANS-230 ACN-220
System OT&E Integration/ Testing	ACW-300 RAPM Site Representative	ANS-230 ANW-120
System Shakedown Testing	AOS-200 ANS-230	ACT Regions
Site Specific Documentation	Regions Contractor	ANS-230
Maintenance Staffing	ASM-200	ANS-230
Maintenance Training	AAC-944B Contractor	AHT Regions
Configuration Management	ASE-600 ANS-230	SEI
Operational Integration	ACD	AOS-200 ANS-230 ACW-300
IA Administration	ASU-300	ANS-230 ANW-120
Technical (Overall)	ANS-230	All

<u>Task/Plan/Activity</u>	<u>Primary Office</u>	<u>Supporting Office</u>
Project Management and Control	AFSS UPS PM	All
NAS Implementation of AFSS UPS	ANS-230 Regions	HQ FAA ACT ASM
Financial Management Record Form 198 Data	ANW-500 Site Representative	Regions RAPM
Site Preparation Report	Regions	ANS-230
Technical (Field)	Regions ACW-300 AOS-200	ANS-230 ANW-500
Logistics Support	ANS-400 SEI Contractor ANS-230	AAC-400 ASU-300 ASM-700
Quality Assurance	U.S Navy	All

54. PROJECT MANAGERIAL COMMUNICATIONS. To maintain effective and responsible control of overall AFSS UPS progress, reviews, conferences and working sessions will be held among the TO, RAPM's, and the installation contractor. Participation in these conferences and working groups by various other FAA offices will be requested at the discretion of the TO. In addition, routine status reports will be required.

55. IMPLEMENTATION STAFFING. The following personnel are responsible for the implementation of the AFSS UPS.

a. Project Manager. The division manager (ANS-200) has designated ANS-230, GNAS Facilities Program, to serve as project manager for the AFSS UPS project.

b. Technical Officer. ANS-230 is the TO.

c. Regional Associate Project Manager (RAPM). The RAPM is designated by the regional AF division as being accountable for ensuring that activities required in support of the AFSS UPS installation are accomplished in an orderly manner. The RAPM is responsible for communication and coordination, in support of the TO. The RAPM will submit to the TO weekly technical reports describing progress in each site within the region.

56. PLANNING AND REPORTS. The successful implementation of the AFSS UPS project will be monitored by the use of the following:

a. Program Director Status Review Boards. The project manager will brief higher level management on the status of project schedules, cost data, and technical topics. These reviews provide for top-level management control of the project. The project manager may request the support of functional or contractor organizations in providing status and information on specific project topics.

b. Project Progress Reports. Monthly - the installation contractor will apprise the FAA of their assessment of contractual effort as of the date of the report, work scheduled for the next period and special problem areas including proposed solution.

c. Configuration Control and Status Accounting Report. Will provide data needed to identify configuration identification and determine the status of change proposals, deviations, and waivers, including implementation status.

d. Implementation Working Group. This group will meet periodically at FAA headquarters in Washington, D.C., or other agreed to locations to address both project issues and specific functional activities. Membership consists of the project manager and headquarters TO. Other offices will be asked to participate as required. Action items generated at this meeting will be resolved by the project office or representatives from functional areas. Minutes of each meeting will be distributed to attendees and in regions and will include a summary of the topics discussed and description of all action items/resolutions.

e. Technical Officer's Representative Conferences. These conferences will be scheduled as necessary. These meetings are attended by RAPM's from each region, the TO, and representative from headquarter organizations. The conference provides a forum

to discuss and resolve project issues of special interest to the regions. Action items generated at these conferences focus on regional concerns and are resolved by the TO and designated RAPM or representatives from functional areas.

f. Design Reviews. Site specific design reviews by ANS-230/ANW-500, will be held at scheduled times at respective sites, and respective RAPM's will participate.

g. Regional Status Reporting. Status reports regarding technical progress will be submitted to the TO by each RAPM. Routine reporting, as well as, responses to specific issues/requests will be addressed in these reports.

h. Installation Phase Documentation. The basic documentation required are the Installation Log and Installation Status Reports. These are described as follows:

(1) Installation Log. The FAA site representative (AFSR) will maintain a project installation log and make entries documenting the installation status, activities, and events for each site. Entries will be made for every visit to the site and/or communication/coordination.

(2) Installation Status Reports. These reports are designed to ensure that the CO, regional divisions, and the PM are abreast of the progress and/or problems at each location. The status report will be prepared and distributed by the RAPM. Status reports will be supplied to the site representative and the regional AF division and AF sector managers, contracting officer, TO, and project manager as a minimum.

57. APPLICABLE DOCUMENTS.FAA Documents

FAA-C-2454	Facility Site Preparation
FAA-D-2494b	Technical Instruction Book Manuscript: Electronic, Electrical & Mechanical Equipment, Requirements for Preparation of Manuscript and Production of Books
FAA-G-1375C	Spare Parts Peculiar
FAA-STD-019	Lightning Protection for Facilities
FAA-STD-036	Preparation of Project Implementation Plans
FAA-STD-028	Contract Training Program
FAA-E-1217E	Electrical Work, Interior
MIL-STD-1388-1A	Logistics Support Analysis
MIL-STD-1388-2A	DOD Requirements for Logistics Support Analysis
MIL-STD-1561	Provisioning Procedures

Other Documents

National Electrical Code

NAS Program Master Baseline Schedule
Capital Investment Plan

Orders

1050.1	Policies and Procedures for Considering Environmental Impacts
1050.10	Prevention, Control and Abatement of Environmental Pollution of FAA Facilities
1800.8F	NAS Configuration Management
1800.58	National Airspace Integrated Logistics Support Policy
1800.63	Nas Deployment Readiness Review Program
1810.4B	FAA NAS Test and Evaluation Policy
4250.9	Field Materiel Management and Control
4560.1B	Policies and Procedures Covering the Provisioning Process During the Acquisition of FAA Materiel
4620.3	Initial Support for New or Modified Equipment Installation
4650.7	Management of NAS F&E Project Materiel

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4800.2	Utilization and Disposal of Excess and Surplus Personal Property
6000.30B	Policy for Maintenance of the NAS Through the Year 2000
6030.45	Facility Reference Data File
6950.2C	Electrical Power Policy Implementation at National Airspace System Facilities.

58.-59. RESERVED.

CHAPTER 6. PROJECT FUNDING

60. PROJECT FUNDING STATUS, GENERAL. FAA offices, services, and regions must use the budgeting process to obtain funding for staffing, training, equipment, and associated development. ANW-200 is the sole source of funding to the regions for the AFSS UPS project. Cost estimates for site preparation and construction costs will be performed by the regions.

61.-69. RESERVED.

CHAPTER 7. DEPLOYMENT

70. GENERAL DEPLOYMENT ASPECTS. The UPS contractor is responsible for providing a COTS UPS system to all field sites. The FAA headquarters has the responsibility for delivery of the equipment from the contractor's facility to all FAA field locations. Following successful completion of shakedown testing at the Operation, Test and Evaluation (OT&E) site, the DRR EXCOM will be scheduled. The purpose of the DRR EXCOM is to have the program office present to the chairman and committee the status of the current issues and concerns with the recommendations for closure and to request a favorable decision to deploy the subsystems. The DRR will be conducted in accordance with Order 1800.63, NAS Deployment Readiness Review Program. The DRR process should begin approximately 180 days prior to the tentative deployment dates shown in the AFSS UPS Equipment Delivery Report.

71. SITE PREPARATION. It is recommended that the regions secure a licensed professional engineers (PE) services for the preparation of site specific installation design package to meet system requirements described in paragraph 32. The region has the option to call upon the PE to assist in the UPS installation testing, project completion, and JAI.

72. DELIVERY. The proposed delivery schedule for the AFSS UPS is to be supplied. All site preparation activities shall be completed prior to the AFSS UPS delivery dates.

73. INSTALLATION PLAN. All equipment shall be installed in accordance with the approved regional design.

74.-79. RESERVED.

CHAPTER 8. VERIFICATION

80. FACTORY VERIFICATION. Not Applicable.

81. CHECKOUT. This is the first stage of onsite testing and is performed by the FAA. Checkout testing verifies the hardware system integrity of the equipment prior to interfacing with any site equipment. These test will consist of voltage and signal checks at all external output points, and checks for grounds or short conditions at all external input points to ensure that interfaces to external equipment are appropriate.

82. CONTRACTOR INTEGRATION TESTING. Not Applicable.

83. CONTRACTOR ACCEPTANCE INSPECTION (CAI). The U.S. Navy shall provide, if FAA requests, services of a manufacturer's technical representative at the site. The technical representative shall review the installation, make intercabinet connections, initially energize, monitor and field installation acceptance test the equipment for proper operation, and instruct site personnel on operation and maintenance of the UPS.

84. NAS INTEGRATION TESTING. This phase of testing will be performed by FAA team members.

85. SHAKEDOWN AND CHANGEOVER. Shakedown testing will be conducted to confirm that when the system is operated and maintained by operational personnel in the operational environment all requirements are met. AOS-200 will develop the shakedown test plan and procedures and is the office of primary responsibility for shakedown testing. Prior to the JAI, the RAPM will verify the following:

a. All required UPS technical documentation is available at the site.

b. Spares are available at the site, in the required range and depth, to support the site's operational schedule.

c. Adequate sector maintenance personnel have completed the AFSS UPS Training Course and demonstrated proficiency in the equipment.

86. JOINT ACCEPTANCE INSPECTION (JAI). A JAI shall be conducted in accordance with Order 6030.45, Facility Reference Data File. The purpose of a JAI is to ensure that each AFSS UPS meets

specified requirements for operation and maintenance, and has demonstrated that the equipment is ready to be commissioned. The Joint Acceptance Board may include representatives from: ANS-230, regional offices, Air Traffic headquarters, sites and other representatives as appropriate. The JAI documentation is comprised of FAA Forms 6030.18 through 6030.25. The UPS will be designated as operationally certified upon the satisfactory completion of the JAI. The satisfactory completion of the JAI designates acceptance of the equipment by the FAA AF Sector.

87.-89. RESERVED.

CHAPTER 9. INTEGRATED LOGISTICS SUPPORT

90. LOGISTICS SUPPORT.

a. Maintenance Concept. The Uninterruptable Power Supply (UPS) design incorporates on-line diagnostics which facilitate troubleshooting and maintenance. Technicians will be alerted by visual and audible alarm or degradation of UPS performance. Some of the conditions which will sound the alarm are as follows: UPS on bypass, overheating, and low battery. The UPS can be manually transferred via push-button from normal operation to bypass operation without interruption to the critical load. Automatic transfer will occur in the event of internal malfunction, overload, over temperature and low battery voltage.

(1) Maintenance support for the UPS will be guided by Order 6000.30B, Policy and Maintenance of the NAS Through the Year 2000, which details a two-level maintenance philosophy, field and depot. This concept assumes the use of modular designed equipment, which enables field level personnel to correct equipment failures onsite by replacing the faulty line replaceable unit (LRU). Field level maintenance consists of all maintenance activities performed on equipment installed in its operating environment and includes both preventive and corrective maintenance actions. Depot-level maintenance consists of reordering or repairing failed LRU's which are shipped from the site or work center. The UPS will utilize this maintenance concept throughout its operational life cycle.

(2) The planned life cycle of the UPS is approximately 10 years, although technology insertions could increase this expected service life if necessary. The maintenance and logistics support shall be consistent with this life cycle. Regardless of the maintenance alternative selected, an initial set of site and depot spares and any special test and support equipment required, shall be provided by the program office using facilities and equipment (F&E) funds.

b. Direct Work Staffing. It is estimated that 18.3 technical employees would be required to maintain the system nationwide. To account for back-up and second level it is estimated that approximately 124 technical personnel would have to be trained.

c. Maintenance Support Facilities. At this time, it is planned that a maintenance support facility will be provided through the U.S. Navy contract.

91. TRAINING, TRAINING SUPPORT AND PERSONNEL SKILLS.

a. The AF training requirements contained in the UPS training plans will identify those functional training areas, essential for FAA personnel to carry out their maintenance and certification/verification responsibilities. The unique requirements of the FAA Technical Center, the FAA Logistics Center, and the FAA Academy must be considered in the development of this training. Regardless of the maintenance support alternative selected, there is a need for selected trained personnel to be onsite by equipment delivery. The goal is for the 100 percent of the identified personnel to be trained at the Operational Readiness Deployment (ORD).

b. Training will be provided for the UPS equipment through an IA between the FAA and the U.S. Navy. Two levels of training will be available, Level I and Level II.

(1) Level I will be designed to instruct site personnel on operation and maintenance of the equipment. Level II will be developed to provide component level training.

(2) Level I training will be available onsite or at the factory location. Level II training will be available at Sheppard Air Force Base, Texas or at the factory location.

(3) The FAA will have the opportunity to evaluate Level I and Level II course material to assure FAA's requirements are satisfied. Attrition training will be available from the same source.

c. Training for FAA technical personnel, who will have field level maintenance responsibilities, require LRU level maintenance training. This training will include theory of operations and sufficient hardware/software information to complete effective preventive maintenance, accomplish system diagnostics, and perform corrective maintenance. Sufficient training will be provided for Operational Support Service (AOS) personnel to perform their configuration management and second level engineering functions. Training requirements to support all levels of training will be determined by the Technical Training and Certification Branch, ASM-250.

92. SUPPORT EQUIPMENT. There have been no special tools or test equipment identified as requirements for the UPS.

93. SUPPLY SUPPORT. The FAA shall provide all site maintenance of the UPS. To ensure timely and economical equipment life-cycle support, the U.S. Navy shall provide access to their integrated logistics support program. The FAA shall utilize the U.S. Navy depot level logistics support for the maintenance of the UPS. The point of contact for the depot support shall be the FAA Logistics Center. FAA field users will requisition spare parts through the FAA Logistics Center, who will then obtain/requisition the required spare parts directly from the Department of Defense (DOD) supply system on a cost reimbursable basis. A separate IA for U.S. Navy depot support of the UPS will be executed, if required.

94. VENDOR DATA AND TECHNICAL MANUALS.

a. Technical Data. It is expected that COTS user's and operator's manuals will be provided (which meet the requirements of FAA-D-2494/b) with each unit. Additional maintenance technical data requirements, such as delivery of a technical data package in the event that the contractor terminates their support, cannot be determined at this point.

b. Packaging, Handling, Storage and Transportation. System equipment being shipped directly to each site for immediate installation will be prepared for delivery in accordance with ASTI-D-3951, Standard Practice for Commercial Packaging. Site stocks (if any) shipped directly to sites will be packaged and marked in accordance with ASTI-D-3951. In addition to the standard marking requirements of MIL-STD-129, each unit container, intermediate and exterior shipping container will be marked with the serial number, part number, warranty expiration data, contract line item number and contract number.

95. EQUIPMENT REMOVAL. Disposition of equipment removed prior to/during installation shall be in accordance with Order 4800.2A, Property Utilization and Disposal of Excess and Surplus Personal Property. Each Regional Hazardous Material Officer will determine specific procedures to be used to dispose of any hazardous materials.

96. FACILITIES. Facility modification/transition will be addressed in more specific detail in the appropriate regional Facility Transition Plans.

97.-99. RESERVED.

APPENDIX 1. ACRONYMS/ABBREVIATIONS

1. PURPOSE. This glossary is to provide the definition of terms, acronyms and abbreviations used in this order.

ACT	FAA Technical Center
AF	Airway Facilities
AFSR	Airway Facilities Site Representative
AFSS	Automated Flight Service Station
ASU	Office of the Associate Administrator for Contracting and Quality Assurance
ANW	Program Director for Weather and Flight Service Systems
CAI	Contractor Acceptance Inspection
CCB	Configuration Control Board
CCD	Configuration Control Decision
CDR	Critical Design Review
DOT	Department of Transportation
DRR	Deployment Readiness Review
DT&E	Development Test & Evaluation
FAA	Federal Aviation Administration
FCC	Federal Communications Commission
ILSP	Integrated Logistics Support Plan
ISP	Integrated Support Plan
JAI	Joint Acceptance Inspection
LRU	Line Replaceable Unit
NAILS	National Airspace Integrated Logistics Support
NAS	National Airspace System
OT&E	Operational Test and Evaluation
PDR	Preliminary Design Review
PIP	Project Implementation Plan
QRO	Quality Reliability Officer
RAPM	Regional Associate Project Manager
RCE	Remote Control Equipment
SEI-TCO	System Engineering and Integration-Technical Center Operations
SOW	Statement of Work
SPR	Site Preparation Report
STD	Standard
STE	Support and Test Equipment
T&E	Test & Evaluation
TDB	To-Be-Determined
TBS	To-Be-Supplied
TD	Test Director
TO	Technical Officer
UPS	Uninterruptible Power Supply
VRTM	Verification Requirements Traceability Matrix

APPENDIX 2. LIST OF AUTHORIZED EQUIPMENT

1. Model 1 or Model I Full Capacity equipment.
2. Integrated Communications Switching System (ICSS).
3. Interim Graphics Weather Display System (GWDS).
4. Remote Maintenance Control (RMS).
5. Direction Finder (DF).
6. Remote Radar Weather Display System (RRWDS).
7. Geostationary Operational Environmental Satellite (GOES).
8. Facility Recorders.
9. Non-administrative Local Area Networks (LAN), and display, i.e., Airport Weather Information System (AWIS), Treasury Enforcement Communication System (TECS). Information Display System (IDS).
10. Remote Control Equipment (RCE).
11. Telephone communications.
12. Radio communications equipment.
13. Automated Surface Observation System (ASOS) Displays

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APPENDIX 3. INTERAGENCY AGREEMENT BETWEEN FAA AND THE U.S. NAVY

INTERAGENCY AGREEMENT TO DM01-93-Z-02007
BEWEEN THE
DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
FACILITYTY PROGRAMS AND DIVISION
GNAS FACILITY PROGRAM BRANCH
AND THE
UNNITED STATES NAVY
NAVEL FACILITIES ENGINEERING COMMAND
CHESAPEAKE DIVISION

ARTICLE I - PURPOSE

This agreement sets forth the provisions and conditions agreed to by the Federal Aviation Administration (FAA), Facility and Transition Division, Facilities Branch (ANS-230), and the Department of the Navy, Naval Facilities Engineering, Chesapeake Division, hereinafter Navy, whereby the Navy will provide, directly or by contract, services to the FAA on an advance payment basis. The Navy will furnish the FAA, ANS-230, Uninterruptible Power Supply (UPS) systems and appurtenances under Navy's indefinite quality contracts.

ARTICLE II - AUTHORITY

The legal authority for this action is the Economy Act of 1932, Title 31 U.S.C. 1535, as implemented by the Federal Acquisition Regulation (FAR) 17.503.

ARTICLE III - SPECIFICATIONS AND/OR STATMENT OF WORK

The FAA needs UPS systems for various ground facilities supporting the National Airspace System (NAS). The Navy indefinite quantity contracts Nos. N62477-91-D-0180 and 90-D-0227 are available to procure UPS'S. These contracts satisfy FAA requirements.

DESCRIPTION OF RESPONSIBILITIES/SERVICES

- a. The FPO 2 branch of the Navy shall act as project manager. Delivery orders shall be issued under the appropriate contract line-item(s) on the existing contract for procurement of UPS systems upon receipt of a "Military Interdepartmental Purchase Request (MIPR)", and funding document from the FAA Contracting Officer.
- b. The FAA shall provide a MIPR to FPO-2 of the Navy. The MIPR shall include as a minimum; quantity required, KVA size, input/output voltage, frequency, EMI requirement, redundancy requirement, type of battery and cabinets/racks, technical services required, ship-to/mark-for, and delivery date required. The estimated total price indicated in the MIPR shall include an additional ten percent (10%) of total planned or actual equipment procurement cost for in-house support. In-house support shall consist of engineering assistance during design and installation of the UPS at each site as required.
- c. FPO-2 of the Navy shall ensure that delivery order(s) provide for in-plant testing of the UPS, factory acceptance testing and approval for shipment by the government quality assurance representative, and shipment to FAA designated location. FAA designated locations will have shipping addresses complete with appropriate location codes, contact points and telephone numbers.
- d. FPO-2 of the Navy shall ensure that interim spare parts packages and Operation & Maintenance manuals are shipped concurrent with the UPS equipment to allow for initial maintenance of the UPS. (Manuals may not accompany the initial shipments.)
- e. At the request of the FAA, FPO-2 of the Navy shall ensure of sealed lead-acid (maintenance-free) battery packs and cabinets/racks or as specified for the UPS through Navy contract 90-D-0227. The battery packs and cabinets are shipped to FAA designated locations upon receipt of Government Bill of Lading (GBL) in accordance with paragraph f. FAA designated locations will have shipping addresses complete with appropriate location codes, contact points and telephone numbers.

f. Hardware (UPS, spare parts, battery and miscellaneous items) delivery is FOB factory, as such, shipping costs between factory and FAA designated locations will be included by FAA. FAA shall issue a GBL for this purpose.

g. The Navy shall provide, if FAA requests, services of a manufacturer's technical representative at the site. The technical representative shall review the installation, make the intercabinet connections, initially energize, monitor and field installation acceptance test the equipment for proper operation, and instruct site personnel on operation and maintenance of the UPS.

h. The FAA shall provide all site maintenance of the UPS. To ensure timely and economical equipment life-cycle support, the Navy shall provide access to their integrated logistics support program. The FAA shall utilize the Navy depot level logistic support for the maintenance of the UPS. The point of contact for the depot support shall be the FAA Logistics Center (FAALC). FAA field users will requisition spare parts through FAALC, who will then obtain/requisition the required spare parts directly from the DOD supply system on a cost reimbursable basis. A separate interagency agreement for Navy depot support of the UPS will be executed, if required.

i. Upon FAA request, the Navy shall also submit FAA personnel training quota requirements to the appropriate training source(s) for training to be provided by those source(s) on a cost reimbursable basis.

j. The FAA shall participate in the development of technical documentation for operating, maintaining, training, supply support, and repair of the UPS to ensure that FAA requirements are met. Documentation includes drawings, operation and maintenance manuals, a provisioning list and the Integrated Logistics Support Plan (ILSP).

k. At no time, and in no event, will FAA attempt, or shall the Navy allow, issuance of delivery orders under either Contract Nos. N62477-91-D-0180 or 90-D-0227 for quantities of Uninterruptible Power Supply (UPS) systems in excess of the stated maximum quantities specified in both or either contract.

UPS SPECIFICATIONS

The UPS Redundant/Non-redundant type available is described and identified in contracts 91-D-0180 and 90-D-0227 with input/output voltage as specified at time of order. The UPS may be ordered for operation at either 40oC or 50oC.

ARTICLE IV - DELIVERY OR PERFORMANCE

Except as provided by Article IX, this agreement shall remain effective for five years. This agreement will be effective upon executed by both parties and shall, unless terminated in accordance with Article IX, shall remain in effect until May 12, 1997. This agreement will be reviewed annually for its continuance.

The address for all deliverables will be indicated in each MIPR.

ARTICLE V - TECHNICAL OFFICER AUTHORITY

The FAA Technical Officer identified in Article VI is responsible for the technical administration of this agreement and technical liaison with the Navy. The FAA Technical Officer is not authorized to change the scope of work, to make any or authorize any changes which effect the estimated cost, period of performance or other terms and conditions of this Agreement.

The CHESNAVFACENGCOM Technical Officer does not have the authority to alter any of the terms or conditions of this Agreement. Any requests for changes shall be submitted in writing to the CHESNAVFACENGCOM Contract Officer.

ARTICLE VI - POINTS OF CONTACT

FAA

A. Contracts Administration - The Contracting Officer is Constance G. Brown, ASU-340, Federal Aviation Administration, 800 Independence Avenue, S.W. Washington, D.C. 20591, telephone number (202) 267-3634.

B. Accounts Payable - (Address above), telephone number (202) 267-7734.

C. Technical - Officer - Felipe C. Solis, ANS-230, Federal Aviation Administration, 800 Independence Avenue, S.W., Washington, D.C. Telephone: (202) 267-8589.

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D. Program Manager - Wilmer Hunter, GNAS Facilities Program Branch, ANS-230, 800 Independence Avenue, S.W., Washington, D.C. 20591, Telephone: (202) 267-8538.

NAVY

A. Contract Administration - Mrs. Sandra K. Soderstrom, Contracting Officer, Chesapeake Division, Naval Facilities Engineering Command, Building 212, Washington Navy Yard, Washington, D.C. 20374-2121, Telephone: (202) 433-5804.

B. Technical Officer - Jesse J. Smith, Code FPO-2, CHESNAVFACENGCOM, Bldg 212, Washington Navy Yard, Washington, D.C., Telephone: (202) 433-4146.

ARTICLE VII - CHANGES, MODIFICATIONS AND INTERPRETATIONS

Changes and/or modifications to this Agreement shall be in writing and signed by an FAA Contracting Officer. the modification shall cite the Interagency Agreement identification number and shall set forth the exact nature of the change and/or modification. No oral statement by any person shall be interpreted as modifying or otherwise affecting the terms of this Agreement.

All request for interpretations of this agreement or modification shall be submitted in writing to the FAA Contracting Officer.

ARTICLE VIII - DISPUTES

The parties agree that in the event of a dispute between the FAA and the Navy, under this Agreement, and to the extent that such a dispute concerns the administration of funds provided by FAA to Navy, no final decision will be issued without the concurrence of the FAA Contraing Officer. If resolution of the dispute cannot be reached, such dispute may be grounds for termination of this agreement, pursuant to ARTICLE IX - TERMINATION.

ARTICLE IX - TERMINATION

This agreement may be terminated, within whole or in part, by mutual consent at any time, or unilaterally, provided that a 90 days notice is given to the other party by the withdrawing agency. The termination shall be in writing and signed by a warranted FAA Contracting Officer when the FAA is the withdrawing party; the FAA Contracting Officer shall be notified in writing if the Navy is the withdrawing party. Any unused FAA funds shall be returned to the FAA.

09/23/93

ARTICLE X - FUNDING AND PAYMENT

The estimated cost shall be as indicated in each MIPR as required, limited only by the availability of equipment and services under the Navy contracts, previously identified in Article III, and by the availability of FAA funds for this purpose.

The FAA shall reimburse the Navy for equipment and services furnished under this agreement upon Navy submission of a properly executed Standard Form 1080, Voucher for Transfers between Appropriations and/or Funds, or other acceptable form. The SF-1080 shall be submitted in an original and two copies to:

Federal Aviation Administration
Accounts Payable Branch, AAA-225
800 Independence Avenue, SW
Washington, DC 20591

A properly executed SF-1080 shall cite the Interagency Agreement Number and the following appropriation data:

582.0/1/E020/703/7039-669/3121 - \$4,100,000

Administrative details on methods and procedures to accomplish the transfer of funds and accounting thereof may be modified upon the agreement of the two respective responsible Comptrollers. The intent of this paragraph is to allow implementation of the latest directives and financial procedures (electronic transfer of funds). Amendments to this agreement, however, are subject to the provision in Article VIII of this agreement, entitled "Changes, Modifications and Interpretation."

Upon expiration or termination of this agreement, the Navy shall refund any portion of funds which have been reimbursed by the FAA but not actually expended in connection with the work specified herein.

ARTICLE XI - REVIEW OF CONTRACTS AND CONTRACT MODIFICATIONS

The Navy agrees to provide copies of proposed contract modifications to its contract number N62477-91-D-0180 with Exide Electronics to the FAA Contracting Officer for review 30 days prior to execution of the modification. If the proposed modification would violate a Congressional restriction applicable to the FAA, the Navy Contracting Officer shall revise the proposed modification in accordance with the recommendations of the FAA Office of Chief Counsel and the FAA Contracting Officer.

09/23/93

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Appendix 3

ARTICLE XII - PROTECTION OF INFORMATION

The parties agree that they shall take appropriate measures to protect proprietary, privilege, or otherwise confidential information that may come into their possession as a result of this agreement.

AGREED:

CHESAPEAKE DIVISION
NAVAL ENGINEERING COMMAND

FEDERAL AVIATION ADMINISTRATION

BY: /s/

BY: /s/

NAME: Glenn R. Smith

NAME: SARAH F. SCOTT

TITLE: Executive Officer

TITLE: CONTRACTING OFFICER

DATE: 02/23/93

DATE: 02/03/93

